June 2001

Brazil

Brazil is the largest country in South America and has experienced rapidly growing oil, natural gas, and electricity markets in recent years. The country is currently in the grips of an energy crisis, which has stunted plans to privatize energy industries.

Note: information contained in this report is the best available as of June 2001 and is subject to change.

BACKGROUND

Brazil currently is experiencing slower than expected economic growth, as the country grapples with an electricity shortage that analysts predict could shave two percentage points or more off the

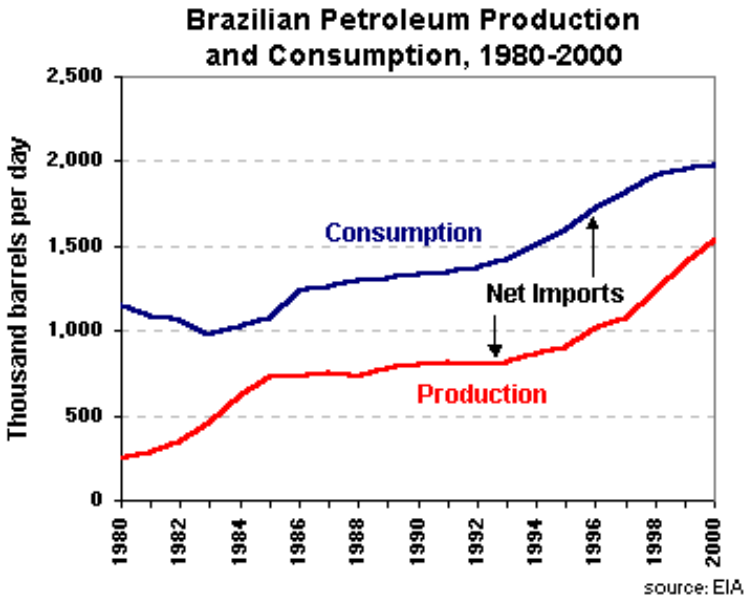
country's gross domestic product (GDP) growth in 2001. After economically difficult years in the late 1990s, the country staged a recovery in 2000, posting 4.2% growth; that figure now is expected to be significantly lower for 2001. Recent economic slowdowns in neighboring Argentina and important trade partner the United States also negatively affect the Brazilian economy.

Brazil's hydro-dependent electricity sector is strained beyond capacity after several years of below-average rainfall, leaving reservoirs about 30% full. The effects of the shortage are widespread: night-time soccer matches have been cancelled, cash machines only function for part of the day, and thermostats are set at unusually high temperatures. In May 2001, the government announced that both industrial and residential consumers must reduce their electricity consumption by 20% for the following five months or face government fines. The government has contemplated measures such as reducing the work day from eight to six hours and reducing the workweek from five days to four, in efforts to stretch the limited electricity supply. Analysts vary in predictions of how long the crisis will last and how severe the economic impacts will be.

In addition to the energy shortage, Brazil is facing political difficulties. In May 2001, two senators resigned rather than face impeachment proceedings in the wake of accusations of inappropriate behavior. Concerns that allegations of irregularities would reach higher levels of government have added extra strain on Brazil's economy.

OIL

Brazil contains the second largest oil reserves in South America (after Venezuela), at 8.1 billion barrels. Although Brazil continues to strive for self-sufficiency in oil production, it is unlikely that the country will reach this goal within the next few years. Production has been rising steadily since the early 1990s, topping 1.5 million barrels per day (bbl/d) in 2000. The offshore Campos Basin, north of Rio de Janeiro, is the country's most prolific production area. Brazil's oil consumption for 2000 is estimated at just under 2.0 million bbl/d. Brazil's oil imports come mostly from Venezuela and Argentina.



Industry Organization

In 1997, the National Petroleum Agency (ANP) was created when President Cardoso signed the Petroleum Investment Law. As outlined in the law, ANP is responsible for overseeing the process of opening up Brazil's petroleum industry to other domestic and foreign players. In addition to raising much needed capital for the government through concessions and the sale of certain parts of the sector, it is hoped that the opening of Brazil's oil industry ultimately could bring about oil self sufficiency for Brazil.

Petrobrás had a monopoly over the rights to explore, produce, refine, and distribute oil in Brazil from its creation in 1953 until 1998. Prices for Petrobrás oil were fixed. Petrobrás's sole position came to an end in July 1998, when ANP announced that more than 92% of the nation's sedimentary basins were to be put up for bidding by other oil companies. Also in 1998, the Petrobrás oil price became linked to world oil prices, and price controls are expected to end completely by 2001.

In August 2000, the government sold a 28.5% stake in Petrobrás, but remains the majority shareholder. The offering generated over $4 billion, and over half of the shares were sold to foreign investors. The revenue was to be used to finance the company's debt and to invest in exploration. A secondary stock offering has been delayed. Complete privatization of the company is unlikely before the conclusion of President Cardoso's term in 2003.

Bid Rounds

Foreign companies first became involved in the Brazilian oil sector in 1997, through joint-ventures with Petrobrás. The first bidding round that allowed foreign companies to compete against Petrobrás occurred in 1999. The blocks for offer in this bidding round, which were extremely large (the average size of each area was 1,800 square miles, equivalent to 225 blocks in the Gulf of Mexico), were sold to 10 foreign firms, as well as to Petrobrás, which won 5 of the 12 blocs. Of the foreign firms, Italy's Agip won the most blocks, totaling four. Companies such as Unocal, Texaco, Amerada Hess, Repsol YPF, and ExxonMobil also made successful exploration bids, some acting in alliance with Petrobrás. Most of the bids came for relatively unexplored but highly coveted areas in over 6,560 feet (2,000 meters) of water off Brazil's Atlantic coast. For example, BP Amoco had a winning bid of $7.4 million for a large offshore block located 186 miles (300 kilometers) from the mouth of the Amazon River.

The second licensing round was concluded in June 2000. This round offered 23 blocks in nine sedimentary basins, including Campos (the Campos Basin is responsible for roughly 70% of the country's current total crude oil output), Amazonas, Camamu-Almada, Parana, Para-Maranhao, Potiguar, Reconcavo, Sergipe-Alagoas, and Santos. In contrast to the first round, the second round included smaller blocks intended to appeal more to smaller oil companies. Contract changes also were designed to encourage smaller bidders, reducing capital requirements. The second round was hailed as more successful than anticipated, with Petrobrás winning many bids in partnerships with foreign companies. While there was little participation from the world's major private oil companies, small and independent U.S., Canadian, European, and Brazilian companies' bids earned $261 million for ANP, up more than 40% from the $183 million in the first round. The Campos and Santos Basin blocks generated the most interest, receiving as many as four bids. Only two blocks received no bids.

Brazil's third bidding round in June 2001 offered 53 blocks, 43 of which are offshore, mostly in deep and ultra-deep water areas. Although about a third of the offered blocks received no bids, the round is considered a success because of the wide range of aggressive bidders who participated. ANP earned $250 million from the round, which attracted major international oil companies such as ExxonMobil, Royal Dutch/Shell, TotalFinaElf, and Statoil, as well as some smaller companies that were new the the Brazilian oil sector, such as U.S.-based Ocean Energy and Germany's Wintershall. As in the previous rounds, Petrobrás was a big winner, winning as operator of 13 blocks and as joint venture partner in two others (with operators ExxonMobil and TotalFinaElf). Companies that will work with Petrobrás include El Paso, Enterprise, Statoil, and Brazil's Petrogal. (To view complete results, click here.)

According to ANP's executive director, ANP plans to continue to hold annual licensing rounds. Brazil's large sedimentary basins afford a plethora of opportunities for further exploration and production activity.

Offshore Platform Accident

On March 20, 2001, Petrobrás's giant *P-36* offshore oil platform in the Campos Basin sank after suffering three explosions in one of its supporting pillars. The rig had a production capacity of 180,000 bbl/d and was producing about 83,000 bbl/d from the Roncador field at the time of the accident. As a result of the accident, Petrobrás has revised downwards its production targets for 2001, from 1.42 million bbl/d to 1.39 million bbl/d. Production estimates for 2002 have been similarly reduced. Early estimates indicated that other production was compensating for the loss of *P-36*, as four new wells coming online in April 2001 helped April production exceed March production.

A temporary replacement platform with a 90,000-bbl/d capacity is expected to be in place by September 2002. A tender for a permanent replacement is scheduled for 2004, to be in operation by 2007.

Brazil has been plagued by recurring spills in recent months. Several smaller oil spills in the Campos Basin as well as a leak in an overland pipeline had been reported between the *P-36* spill and the publishing of this report.

Downstream

In addition to liberalization of Brazil's upstream oil sector, changes are underway to allow foreign and other domestic firms to compete with Petrobrás in the downstream sector of the industry. There are 13 crude oil refineries in Brazil, 11 of which belong to Petrobrás and comprise almost 99% of total refinery capacity.

In January 2001, Petrobrás announced plans to invest $5 billion by 2010 to upgrade its refineries and increase capacity. An estimated $700 million will be spent at the largest refinery, Replan, which accounts for about 22% of Brazil's total refining output. Another $400 million will be invested in the Mataripe refinery in the north-eastern state of Bahia.

NATURAL GAS

Brazil's natural gas production and consumption rose steadily throughout the 1990s, with imports beginning in 1999. Natural gas reserves as of January 2001 stood at 8.2 trillion cubic feet (Tcf), the fourth-largest in South America behind Venezuela, Argentina, and Peru. Brazilian natural gas consumption is expected to rise in the coming decade as the country works to become self-supporting in the oil sector and to lessen its dependence on hydropower. Much of this increase is expected to be fueled by imports, although Brazilian discoveries could mitigate the need for dramatic increases in natural gas imports.

The Campos and Santos basins hold the largest Brazilian gas fields. Offshore southeast Brazil is hydrocarbon rich yet underexplored, leaving potential for significant increases in reserves and production. Past exploration activities have focussed on oil rather than gas. Several gas discoveries in 2000 and a large discovery in June 2001 have positive implications for Brazilian gas production.

Industry Organization

Natural gas exploration and production historically have been carried out by Petrobrás. Distribution, however, was handled at the state level. In accordance with Brazil's national privatization agenda, plans are underway to privatize parts of the country's natural gas sector. Because Brazil maintains a highly federalized government system, many state governments are now shouldering heavy fiscal responsibilities. In an effort to raise necessary working capital, state governments have begun to sell their state natural gas distribution companies.

Pipelines

Brazil has two existing international pipeline connections, with several more under construction. The first pipeline to connect Brazil to foreign gas sources was the Bolivia-to-Brazil pipeline, tapping Bolivia's Rio Grande sources. Partners in the Brazilian section of the pipeline include Petrobrás, Enron, Shell, and BBPP Holdings. Construction began in 1996 and cost $2.1 billion. The completed pipeline covers almost 2,000 miles, and came onstream in July 1999, with service to Sao Paulo and a terminus in Porto Alegre. The pipeline is operating below its 1,060 thousand cubic feet per day (Mcf/d) capacity, which is not expected to be reached until 2004.

The second operational pipeline links Paraná, Argentina, to Uruguaiana, Brazil. *Transportadora de Gas del Mercosur* is the 88-Mcf/d, 270-mile pipeline's operator. The pipeline supplies gas to a $350-

million, 600-megawatt (MW) AES power plant in Uruguaiana. Service began in July 2000. An extension of the pipeline, which will connect Uruguaiana to Porte Alegre, currently is under construction. *Transportadora Sul Brasileira de Gas* is the operator of the extension, which is expected to become operational in early 2002.

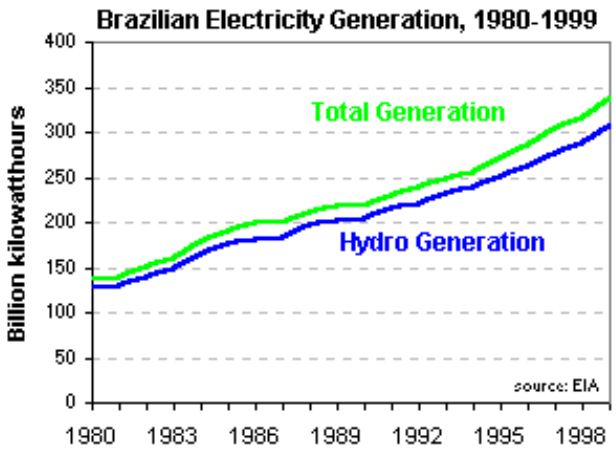
Additional Argentina-Brazil pipelines are in various stages of planning, although recent natural gas discoveries in Bolivia and potential Brazilian discoveries could discourage development of the pipeline projects. Potential Argentina-Brazil pipelines include the Cruz del Sur, Trans-Iguacu, and Mercosur pipelines. The Cruz del Sur would extend to Brazil the Argentine-Uruguayan pipeline that currently is under construction. The Trans-Iguacu pipeline would cross from northern Argentina's Noroeste Basin into southern Brazil. The Mercosur pipeline would tap northwestern Argentina's Neuquen Basin to Curitiba, Brazil, and could extend to Sao Paulo. It also is possible that a second Bolivia-Brazil pipeline will be built.

Northern Brazil has an energy infrastructure separate from the more densely populated southern part of the country. Rising natural gas demand in the northern parts of the country probably will not be met with gas from Bolivian or Argentine sources, but rather with imports from Venezuela (via a new pipeline) and/or Trinidad and Tobago (in the form of liquefied natural gas).

COAL

Brazil's recoverable coal reserves are estimated at approximately 13.2 billion short tons of lignite and sub-bituminous coal, the largest coal reserves in Latin America. Due to the high ash and sulfur content and low caloric value of its domestic coal, Brazil imports a significant amount of coal. Production in 1999 was approximately 4.8 million short tons (Mmst), while consumption was an estimated 27.2 Mmst.

Coal is used predominantly for Brazil's domestic steel industry, with a small portion burned to generate electricity. A 1996 study by the International Energy Agency (IEA) concluded that Brazil will continue to be one of the world's major coal importers during the next 10 to 15 years, with imports possibly doubling by 2010. The country's steel industry is expected to remain the largest domestic coal consumer for the foreseeable future. Brazil plans to increase its use of steam coal (both domestic and imported) for electric power generation.



ELECTRICITY

Brazil has installed electric capacity of 65.2 million kilowatts, 87% of which is hydropower (as of January 1, 1999). Of the 337.4 billion kilowatthours (bkwh) generated in Brazil in 1999, 91% was from hydropower. Together with Paraguay, Brazil maintains the world's largest operational hydroelectric complex, the Itaipu facility on the Paraná River, with a capacity of 12,600 megawatts (MW). Brazil's remaining electricity generation capacity comes from coal and an ever-increasing amount from natural gas. Brazil's small northern and larger southern electrical grids were joined in January 1999 into one grid that serves 98% of the country. Brazil's domestic supply is augmented by imports from neighboring Argentina.

Electricity Shortage

As of June 2001, Brazil faces a critical electricity shortage. The shortage can be explained by natural causes -- insufficient rainfall -- and by underinvestment in the industry. Several years of below-average rainfall have left reservoirs 70% depleted, which puts a country that is over 90% reliant on hydropower in dire straits.

Underinvestment in the power sector is the other primary cause of the current shortage. Electricity demand grew rapidly in the 1990s, with 1999 consumption about 55% higher than 1990 consumption. Installed generation capacity, however, grew about 25% during the same period. Analysts had long predicted that this demand growth, if not supported by capacity growth, had the potential to lead to shortages.

Aware of the need for new power generating capacity, the Brazilian government had stated that 49 new thermal power plants would come online after the opening of the Bolivia-to-Brazil gas pipeline. Only one gas-fired power plant, by U.S.-based AES, has been completed, and a handful more will be completed before year-end. Regulatory difficulties are blamed for the delay; the imported gas to feed the plants must be paid in dollars, while the electricity is sold in Brazilian reais. The AES plant's opening presently is being delayed over this issue.

The Brazilian government has taken drastic measures to reduce electricity consumption. In late May 2001, an electricity rationing plan was announced under which all industrial and residential power consumers must reduce consumption by 20%, effective from June 1, 2001 until November 30, 2001. Customers who fail to reduce their consumption by 20% face fines. Initial statistical data suggest that the country fell a few percentage points short of the 20% reduction target in early June, with the heavily populated and industrialized south shaving 16% and the north 17% off pre-June consumption, according to the National Grid Operator.

As a further attempt to deal with the crisis, Brazil's National Development Bank has earmarked $125 million for sugar mills that generate surplus electricity by burning sugar cane waste. Brazil has a very large sugar cane industry, with 350 sugar mills that are mostly self-sufficient in terms of electricity. The potential generation capacity from the sugar waste is estimated between 400 and 700 MW, but prohibitive capital costs have deterred significant sugar-fired generation to date.

Also in response to the electricity shortage, Petrobrás has agreed to provide financial assistance to companies that build on-site natural-gas fired power sources. Petrobrás will supply the gas for the plants. Seventeen projects are under consideration, ranging from 2 to 30 MW in capacity.

Sector Organization

Privatization of Brazil's electricity sector had been on-going for several years prior to the current crisis. The process stalled in the wake of the country's 1999 currency devaluation, and little progress has been made since that time. The current electricity crisis is not considered to have positive implications for privatization. Total deregulation remains scheduled for 2006.

Political opposition to privatization remains strong. An estimated 80% of Brazilian electric generation remains in public hands, and Congress is considering legislation to prohibit the sale of the country's three largest utilities. Federal utility Eletrobrás controls about half of the country's installed capacity and most of the large transmission lines. Eletrobrás coordinates and supervises the expansion and operation of the generation, transmission and distribution systems. Private capital flows resulting from privatization had been expected to play a key role in bolstering the industry, especially as state-owned generators have not had investment capital available.

Although generation remains mostly under government control and transmission is not slated for privatization in the near term, distribution is mostly in private hands. Regulatory difficulties are blamed for the lack of international interest in Brazilian electricity distribution. Electricity prices to industrial and residential customers are fixed. The prices that distribution companies have paid to

transmission companies have risen throughout 2001, but the increased costs cannot be passed on to customers.

Distributors are hard hit by the new 20% mandatory reduction in electricity consumption, and their profits are suffering accordingly. AES and U.S.-based Enron, two companies that had been taking the lead in investing in Brazil, announced in June 2001 intentions to "put a brake on investment" in the country until further notice.

Nuclear Power

Brazil has two operational nuclear plants, Angra-1 and Angra-2, and one under construction, Angra-3, although construction has stalled. Angra-1 was bought from the U.S. company Westinghouse in 1969. The Angra-2 plant came online in 2000, 23 years and $10 billion after construction began. The nuclear program historically came under the Ministry of Defense rather than the Ministry of Mines and Energy, and decreased funding for the military translated to delays in nuclear power plant construction. A government company, Eletronuclear, now has been created to assume responsibility for the plants.

Cardoso is expected to decide in July 2001 whether or not to resume construction on Angra-3, which could be in production as early as 2006. Equipment for the plant has been mothballed, but the current electricity crisis has bolstered interest in bringing the plant into service.

ENVIRONMENT

Brazil is a major player in discussions regarding the environment. Brazil's Amazon rainforest comprises 30% of the world's remaining tropical forests, and in addition to providing shelter to at least one tenth of the world's plant and animal species, the rainforest acts as a mechanism for absorbing carbon dioxide from the atmosphere.

Brazil is the largest energy consumer in South America (consuming 8.5 quadrillion Btu of commercial energy in 1999), and the third largest in the Western Hemisphere, behind the United States and Canada. While total energy consumption statistics place the country as prominent in the region, Brazil's per capita energy consumption of 51.9 million Btu is comparable to the average per capita energy consumption for all of Central and South America. Brazil also is the largest emitter of carbon dioxide in the region, releasing 88.9 million metric tons of carbon into the atmosphere in 1999. Although Brazil's carbon emissions are fairly significant in the region, carbon intensity, the amount of carbon emitted per dollar of GDP, is comparatively low. In 1999, carbon intensity measured 0.15 metric tons of carbon.

One reason for the comparatively lower carbon intensity in Brazil is the significant use of hydropower in the energy mix, as well as the use of biofuels and other forms of renewable energy. One prominent biofuel in the Brazilian economy is ethanol. The ethanol program was initiated partially in response to the oil shock of 1973, and partly as an alternative to oil to promote self-sufficiency. The ethanol program also has been one of Brazil's strategies to mitigate the environmental effects of rapid urbanization.

In January 1999, Brazil's Congress implemented an environmental pollution law that fines polluters for environmental standards violations. Industrial polluters have five years to come into compliance with the new law, after which they can be fined between $50 and $50 million dollars for violations.

COUNTRY OVERVIEW

President: Fernando Henrique Cardoso (since 1/1/95; re-elected 10/4/98, next election 10/02)
Independence: September 7, 1822 (from Portugal)
Population (2000E): 172.9 million
Location/Size: Eastern South America/3.3 million square miles, slightly smaller than the United States

Major Cities: Sao Paulo, Rio de Janeiro, Belo Horizonte, Brasilia (capital)
Languages: Portuguese (official), Spanish, English, French
Ethnic Groups: white (55%), mixed (38%), black (6%), other (1%)
Religions: Roman Catholic (80%)
Defense (8/98): Army (195,000), Navy (68,250), Air Force (50,000), Public Security Forces (385,600)

ECONOMIC OVERVIEW

Currency: 1 Real (R) = 100 centavos
Exchange Rate (6/25/01): US$1 = R 2.28
Gross Domestic Product (GDP, 2000E): $558.4 billion
Real GDP Growth Rate (2000E): 4.2% **(2001F):** 2.0%-3.0%
Inflation Rate (consumer prices, 2000E): 4.7% **(2001F):** 6.1%
Current Account Deficit (2000E): 4.6% of GDP
Major Trading Partners: United States, Argentina, Japan, Germany, Italy
Major Exports (1999): Manufactured products (57%), coffee (5%), iron ore (6%)
Major Imports (1999): Raw materials/industrial (33%), capital goods (43%), petroleum and other fuels (10%), consumer goods (13%)
Unemployment Rate (2000E): 7.1% **(2001F):** 7.0%

ENERGY OVERVIEW

Minister of Energy and Mines: Jose Jorge
Proven Oil Reserves (1/1/01): 8.1 billion barrels
Oil Production (2000E): 1.5 million barrels per day (bbl/d)
Oil Consumption (2000E): 2.0 million bbl/d
Crude Oil Refining Capacity (1/1/01): 1.92 million bbl/d
Natural Gas Reserves (1/1/01): 8.2 trillion cubic feet (tcf)
Natural Gas Production (1999E): 221 billion cubic feet (bcf)
Natural Gas Consumption (1999E): 234 bcf
Coal Reserves (1996): 13.2 billion short tons
Coal Production (1999E): 4.8 million short tons (Mmst)
Coal Consumption (1999E): 27.2 Mmst
Electric Generation Capacity (1999E): 65.2 gigawatts
Net Electricity Generation (1999E): 337.4 billion kilowatthours (bkwh)
Net Electricity Consumption (1999E): 353.7 bkwh

ENVIRONMENTAL OVERVIEW

Minister of Environment: Jose Sarney Filho
Total Energy Consumption (1999E): 8.5 quadrillion Btu* (2.2% of world total energy consumption)
Energy-Related Carbon Emissions (1999E): 88.9 million metric tons of carbon (1.4% of world carbon emissions)
Per Capita Energy Consumption (1999E): 51.9 million Btu (vs. U.S. value of 355.8 million Btu)
Per Capita Carbon Emissions (1999E): 0.54 metric tons of carbon (vs U.S. value of 5.5 metric tons of carbon)
Energy Intensity (1999E): 14,696 Btu/ $1990 (vs U.S. value of 12,638 Btu/ $1990)**
Carbon Intensity (1999E): 0.15 metric tons of carbon/thousand $1990 (vs U.S. value of 0.19 metric tons/thousand $1990)**
Sectoral Share of Energy Consumption (1998E): Industrial (51.5%), Transportation (23.3%), Residential (15.9%), Commercial (9.3%)
Sectoral Share of Carbon Emissions (1998E): Industrial (48.6%), Transportation (41.8%), Residential (7.4%), Commercial (2.2%)
Fuel Share of Energy Consumption (1999E): Natural Gas (2.9%), Oil (46.8%), Coal (6.4%)
Fuel Share of Carbon Emissions (1999E): Oil (79.7%), Natural Gas (5.2%), Coal (15.1%)
Renewable Energy Consumption (1998E): 4,573 trillion Btu* (4% increase from 1997)
Number of People per Motor Vehicle (1998): 12.9 (vs U.S. value of 1.3)

Status in Climate Change Negotiations: Non-Annex I country under the United Nations Framework Convention on Climate Change (ratified June 4th, 1992). Signatory to the Kyoto Protocol (April 29th, 1998).
Major Environmental Issues: Deforestation in Amazon Basin destroys the habitat and endangers the existence of a multitude of plant and animal species indigenous to the area; air and water pollution in Rio de Janeiro, Sao Paulo, and several other large cities; land degradation and water pollution caused by improper mining activities
Major International Environmental Agreements: A party to the Antarctic-Environmental Protocol, Antarctic Treaty, Biodiversity, Climate Change, Desertification, Endangered Species, Environmental Modification, Hazardous Wastes, Law of the Sea, Marine Dumping, Nuclear Test Ban, Ozone Layer Protection, Ship Pollution, Tropical Timber 83, Tropical Timber 94, Wetlands and Whaling.

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.
** GDP based on EIA International Energy Annual 2000.

ENERGY INDUSTRY OVERVIEW

Organization: *Petroleo Brasileiro (Petrobrás)* - government-owned (majority shareholder) oil and natural gas company; *Centrais Eletricas Brasileira (Eletrobrás)* - federal holding company for planning and coordination of generation, transmission and distribution of electrical power
Major Petroleum Terminals: Sao Sebastiao, Madre de Deus, Angra dos Reis
Major Ports: Santos, Rio de Janeiro, Praia Mole, Vitoria, Rio Grande
Major Oil and Gas Fields: Campos Basin (includes Marlim, Albacora, and Barracuda fields), Santos Basin
Major Refineries (January 2001 capacity, all belonging to Petrobrás): Paulinia - Sao Paulo (352,200 bbl/d), Mataripe-Bahia (306,000 bbl/d), Duque de Caxias - Rio de Janeiro (226,000 bbl/d), Sao Jose dos Campos - Sao Paulo (214,000 bbl/d), Canoas, Rio Grande do Sul (189,000), Araucaria - Parana (189,000 bbl/d), Cubatao-Sao Paulo (170,000 bbl/d), Betim-Minas Gerais (151,000 bbl/d)

Sources for this report include: Argus Latin American Energy and Latin American Power Watch; CIA World Factbook; Dow Jones; Economist Intelligence Unit ViewsWire; Financial Times; Janet Matthews News Services; Latin America Monitor; Latin American Energy Alert; Latin American Power Watch; New York Times; Oil and Gas Journal; Petroleum Economist; U.S. Energy Information Administration.

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